What is claimed is:

1. Apparatus for providing demand television comprising:
   a broadcast encoder for encoding a video frame sequence
   to form a broadcast bitstream;
   a storage encoder for encoding the video frame sequence
   to form a storage bitstream;
   a transmission system for transmitting the broadcast
   bitstream to subscriber equipment;
   a storage device for storing the storage bitstream; and
   wherein the storage device stores the storage bitstream
   at the same time that the transmission system transmits the
   broadcast bitstream.

2. The apparatus of claim 1 wherein said broadcast encoder
   is a high data rate encoder.

3. The apparatus of claim 1 wherein said video frame
   sequence is a real-time video frame sequence.

4. The apparatus of claim 1 wherein said storage bitstream
   contains play and trick play bitstreams.

5. The apparatus of claim 1 wherein said storage encoder
   comprises:
   a first encoder for producing a first bitstream that
   contains information that, when decoded, produces a standard
   forward play video frame sequence;
   a frame subsampler;
   a buffer that stores subsampled frames of the video
   sequence;
   a second encoder for producing a second bitstream that
   contains information that, when decoded, produces a fast
   forward video frame sequence;
   a third encoder for producing a third bitstream that
   contains information that, when decoded, produces a fast
   reverse video frame sequence; and

a controller that selects subsampled frames from the buffer and couples to selected frames to the second and third encoders.

6.   The apparatus of claim 5 wherein said first encoder is an MPEG encoder that encodes N frames of the video sequence.

7.   The apparatus of claim 6 wherein said second and third encoders are MPEG encoders that encodes N subsampled frames.

8.   The apparatus of claim 5 wherein the controller multiplexes selection of the frames from the buffer to apply a plurality of subsampled frames to said second encoder to form said second bitstream and then apply a plurality of subsampled frames to said third encoder to form said third bitstream.

9.   A method for providing demand television comprising the steps of:
encoding, in real-time, a broadcast video frame sequence to form a broadcast bitstream, while at the same time encoding the broadcast video frame sequence to form a storage bitstream;
broadcasting the broadcast bitstream to subscriber equipment;
storing the storage bitstream within a storage device;
upon a subscriber selecting to view information previously broadcast by the broadcast bitstream, transmitting to the subscriber the storage bitstream.

10. The method of claim 9 wherein said broadcast bitstream is a high data rate bitstream.

11. The method of claim 9 wherein the storage bitstream contains a play bitstream and a trick play bitstream.

12. The method of claim 9 wherein said storage bitstream encoding step comprises the steps of:

encoding said frames to form a first bitstream;

subsampling said broadcast video frames;

buffering said subsampled frames;

recalling said buffered frames in a forward time

5   sequence order;

encoding said recalled buffered frames to form a second

bitstream;

recalling said buffered frames in a reverse time

sequence order;

10   encoding said recalled buffered frames to form a third

bitstream.

13.   The method of claim 12 wherein said first bitstream

when decoded forms a standard play frame sequence.

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14.   The method of claim 12 wherein said second bitstream,

when decoded, forms a fast forward frame sequence.

15.   The method of claim 12 wherein said third bitstream,

20   when decoded, forms a fast reverse frame sequence.

16.   The method of claim 9 wherein said storage bitstream

contains a plurality of bitstream types and said storage

bitstream transmitting step further comprises the steps of:

25   recalling from said storage device a particular

bitstream in response to a request for a particular

bitstream type from a subscriber terminal;

addressing the requested bitstream to said requesting

subscriber;

30   transmitting said requested bitstream to said

subscriber equipment.

17.   The method of claim 16 wherein said storage bitstream

types include a play bitstream, a fast forward bitstream and

35   a fast reverse bitstream.

18.   The method of claim 17 wherein said fast forward

bitstream contains an indicator that delimits the end of

available data and the method further comprises a step of
switching from transmitting a fast forward bitstream to
transmitting said broadcast bitstream upon reaching the
indicator.

5   19. The method of claim 9 further comprising the step of:
            upon a request from a subscriber, switching from
       decoding said storage bitstream to decoding said broadcast
       bitstream.

10   20. A method of providing demand television comprising the
       steps of:
            transmitting a broadcast bitstream to a plurality of
       subscriber equipment;
            storing said broadcast bitstream as a storage bitstream
15   while said broadcast bitstream is being transmitted;
            decoding within subscriber equipment, said video
       bitstream; and
            upon said subscriber equipment requesting said storage
20   bitstream to enable review of information contained in said
       broadcast bitstream, transmitting said storage bitstream to
       said subscriber having requested the storage bitstream.

       21. The method of claim 20 wherein said storage bitstream
25   comprises a play bitstream and a trick play bitstream.

       22. The method of claim 21 wherein said trick play
       bitstream comprises a fast forward bitstream and a fast
       reverse bitstream.

30   23. The method of claim 22 further comprising the step of:
            upon said fast forward bitstream being exhausted of
       data, automatically switching from said storage bitstream to
       said broadcast bitstream.

24. The method of claim 20 further comprising the step of:
upon said subscriber equipment requesting said
broadcast bitstream, switching from said storage bitstream
5 to said broadcast bitstream.